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monazite from the Villeneuve Mica Mine, Ottawa county, Quebec, has a reddish-brown color, slightly waxy lustre, and an indistinct cleavage. Analysis:

SiO_2	ThO_2	Fe_2O_3	Ce_2O_3	$(La.Di)_2O_3$	$(Y.Er)_2O_3$	MgO	CaO
.91	12.60	1.07	24.80	26.41	4.76	.04	1.54
P_2O_5	H_2O	Sp.Gr.					
26.86	.78	5.233					

Galmite and a *columbite* crystal from Delaware county, Pennsylvania, are also described and analysed by Dr. Genth.[19]

BOTANY.

The Cooke Herbarium.—From the June number of *Grevillea* we learn that the large herbarium of fungi, transferred by M. C. Cooke to the Royal Herbarium at Kew, is now for the most part incorporated with that great collection. The specimens are distributed as follows:

Hymenomycetes, about	11,000
Gastromycetes and Myxogasters,	2,000
Ustilagines and Uredines,	6,000
Discomycetes,	6,000
Pyrenomycetes,	12,000
Incompletæ,	9,000

The collection is a most valuable one, containing, as it does, contributions from many eminent mycologists, Berkeley, Curtis, Duby, Ellis, Fries, Leville, Montague, Peck, Ravenel, Rabenhorst, Winter, etc.

The Flora of Madagascar.—It may now be said with perfect truth that the vegetable productions of Madagascar have been, though not thoroughly, very extensively explored, and that the majority of the plants inhabiting the island are known to science. The country has been traversed by botanists in many different directions, its highest mountains have been ascended, its lakes and marshes crossed, its forests penetrated, and large collections of plants have been made from time to time, which have been examined and described in various publications. Our knowledge of the flora of Madagascar is due, in the first instance, to the labors of Flacourt, Dupetit Thouars, Commerson, Chapelier, Bernier, Lantz, Boivin, Pervillé, De Lastelle,

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[19] Proc. Ac. Nat. Sc. of Phila., 1889., p. 50.

Grevé, Hilsenberg, Bojer, Goudot, Bréon, Vesco, Grandidier, Thompson, Lyall, Ellis, and others, most of whom collected plants chiefly in the east, north, and north-west parts of the island. * * * *

Within the last five years our knowledge of the flora of the island has been very materially increased, so that, whereas until recently less than two thousand species of plants were known, there are now named and described about four thousand one hundred, though many of them will doubtless prove repetitions when they are properly compared and worked out. * * * *

In Madagascar a considerable area is covered by primeval forests. On the eastern side of the island,—that is, the part eastward of the highest range of mountains, which forms the chief watershed,—there is a forest which extends probably eighteen hundred miles from north to south, almost, if not entirely, without a break, and which, if what is frequently stated be true, continues round the island, forming a complete, or almost complete, belt some distance from the sea. * * * *

It is grievous to relate, however, that the forests of Madagascar are being destroyed in the most ruthless and wholesale manner by the natives. Every year thousands of acres of country are cleared, the trees being burned to the ground, and that for no other purpose than to provide ashes as manure for a mere handful or two of beans, or a few cobs of Indian corn, or a little rice to be grown in the clearing. * * * *

The following figures will show at a glance the number of natural orders and generas of flowering plants represented in Madagascar as compared with those known throughout the world according to Bentham and Hooker's "Genera Plantarum":

Total known in the world, . . .	Orders, 200;	genera, 7,569.
Total known in Madagascar, . .	Orders, 144;	genera, 970.

Of the four thousand one hundred plants at present known in Madagascar, about three thousand (or three-fourths of the total flora) are, remarkable to say, endemic. Even of the Granicueæ and Cyperaceæ about two-fifths of the plants in each order are peculiar to the island. There is but one natural order confined to Madagascar, the Chlænaceæ, with twenty-four species, which, however, M. Baillon places under Ternstrœmiaceæ. Of ferns more than a third are endemic, and of orchids as much as five-sixths, facts which in themselves are sufficient to give a very marked individuality to the character of the flora. —RICHARD BARON, in *Jour. Linn. Society.*

Some Recent Botanical Literature.—In the August and September numbers of the *Journal of Botany* George Murray continues his useful catalogue of the Marine Algæ of the West Indian Region. —Mr. Buchanan White, in the September number, publishes a list of British willows, amounting to seventeen different speces, with many varieties and hybrids.—Britten and Boulger's Biographical Index of British and Irish Botantists has reached Lindsay. It is a most condensed index, and one wishes it could have been a little less so, especially in case of such men as Knight, Leighton, Lindley, etc.—A short obituary of the Rev. M. J. Berkeley appears in the September *Grevillea.* Born in 1803, he lived until the 30th of July of this year, reaching the ripe age of nearly eighty-six years. For more than half a century he was a careful student of the fungi. His herbarium, containing the types of about five thousand species, was deposited in the Kew Herbarium in 1879.—M. C. Cooke's new edition of his Handbook of the British Fungi has reached the genus Russula. The last species described is numbered 1214. Professor Underwood and O. F. Cook have compiled a generic synopsis of the Basidiomycetes and Myxomycetes covering twenty-one pamphlet pages. It is designed to accompany A Century of Illustrative Fungi, distributed by the authors.

BACTERIOLOGY.

Phenyl Alcohol as a Preservative for Growths of Bacteria on nutrient Agar agar.—While working on bacteria at the Illinois Laboratory of Natural History recently, the writer of this note made a few experiments with a view to finding something that could be used to preserve growths of bacteria in and on nutrient agar agar. Among a number of preservatives employed a thirty per cent. solution of carbolic acid in alcohol was finally settled on, as giving the most satisfactory results. The acid counteracts the whitening tendency of the alcohol to such an extent that the preserved agar agar is more transparent than the original. For very profuse surface growths it does not answer well, because the alcohol hardens, and renders them brittle, so that they are liable subsequently to flake off from the gelatine. Growths which have not been allowed to stand too long, however, before fixing, retain in the preservative much of their original appearance. The